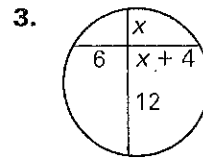
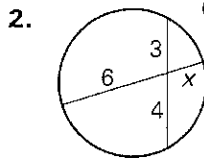
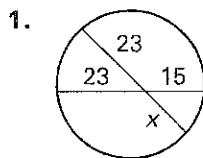


**LESSON 10.6**

**Practice B**

For use with pages 688-695

Find the value of  $x$ .

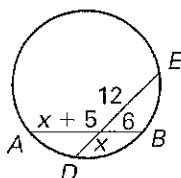


$23x = 23 \cdot 15$   
 $x = 15$

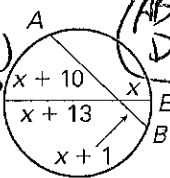
$6x = 12$   
 $x = 2$

$6x + 24 = x \cdot 12$   
 $24 = 6x$   
 $4 = x$

Find  $AB$  and  $DE$ .



5.  $x(x+13) = (x+10)(x+1)$   
 $x^2 + 13x = x^2 + 11x + 10$   
 $2x = 10$   
 $x = 5$



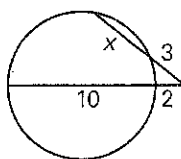
$AB = 21$   
 $DE = 23$

$(x-10)(x+12) = x^2 - 6x$   
 $x^2 + 12x - 120 = x^2 - 6x$   
 $18x = 120$   
 $15 = x$

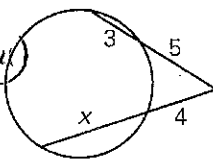
$6x + 30 = 12x$

$5 = x$   
 $AB = 16$   
 $DE = 17$

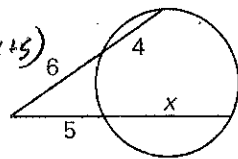
Find the value of  $x$ .



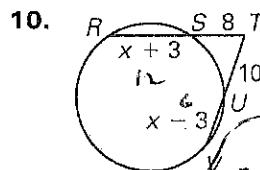
8.  $5(8) = 4(x+1)$   
 $40 = 4x + 4$   
 $36 = 4x$   
 $9 = x$



$6(10) = 5(x+5)$   
 $60 = 5x + 25$   
 $35 = 5x$   
 $7 = x$



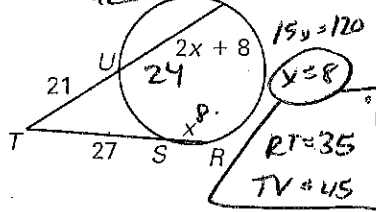
Find  $RT$  and  $TV$ .



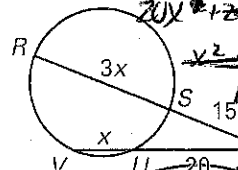
$8(x+11) = 10(x+7)$   
 $8x + 88 = 10x + 70$   
 $18 = 2x$   
 $9 = x$

$RT = 20$   
 $TV = 16$

$21(2x+8) = 27(x+7)$   
 $42x + 168 = 27x + 189$   
 $15x = 21$   
 $x = 8$



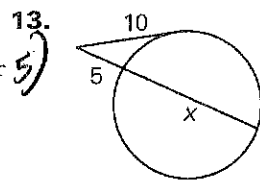
$RT = 35$   
 $TV = 45$



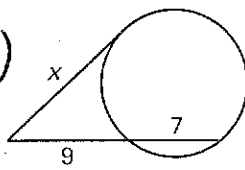
$20(x+20) = 15(3x+15)$   
 $20x + 400 = 45x + 225$   
 $175 = 25x$   
 $7 = x$

$VT = 27$   
 $RT = 36$

Find the value of  $x$ .

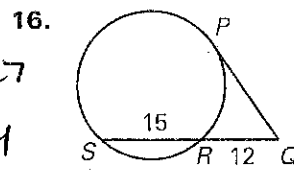


$x^2 = 9(16)$   
 $x = 12$

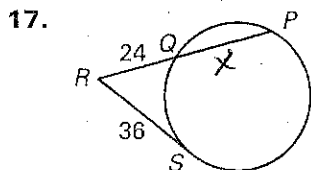


$15^2 = 9(4x+9)$   
 $225 = 36x + 81$   
 $144 = 36x$   
 $4 = x$

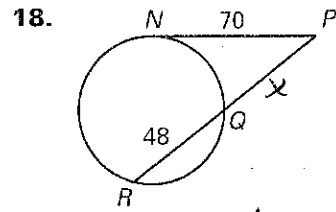
Find  $PQ$ .



$PQ^2 = 12(27)$   
 $324$   
 $PQ = 18$



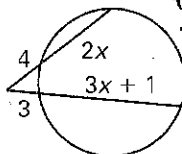
$36^2 = 24(x+24)$   
 $1296 = 24x + 576$   
 $720 = 24x$   
 $30 = x$



$70^2 = x(x+48)$   
 $4900 = x^2 + 48x$   
 $0 = x^2 + 48x - 4900$   
 $(x-50)(x+98)$   
 $x = 50$

LESSON  
10.6**Practice B** *continued*  
For use with pages 688–695Find the value of  $x$ .

19.

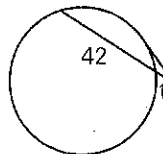


$$4(2x+1) = 3(3x+1)$$

$$8x+4 = 9x+3$$

$$4 = x$$

20.

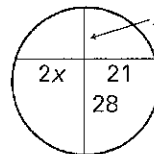


$$20^2 = x(x+42)$$

$$0 = x^2 + 42x - 400$$

$$(x+50)(x-8)$$

$$x = 8$$



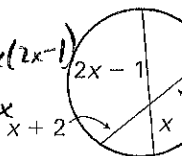
$$(x+5)(28) = 2x \cdot 21$$

$$42x$$

$$x+5 = 1.5x$$

$$10 = x$$

22.



$$(x+2)(2x-4) = x(2x-1)$$

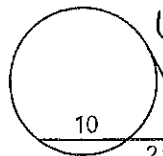
$$2x^2 - 8x + 4x - 8 = 2x^2 - x$$

$$-8x - 8 = -x$$

$$-7x = 8$$

$$x = 8$$

23.



$$(3x)^2 = 2x(2x+10)$$

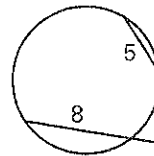
$$9x^2 = 4x^2 + 20x$$

$$5x^2 - 20x = 0$$

$$5x(x-4) = 0$$

$$x = 0$$

$$x = 4$$



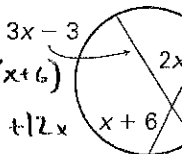
$$x(x+1) = (x+1)(x+1)$$

$$x^2 + x = x^2 + 2x + 1$$

$$-x = 1$$

$$x = -1$$

25.



$$x(3x-3) = 2x(x+6)$$

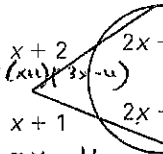
$$3x^2 - 3x = 2x^2 + 12x$$

$$x^2 - 15x = 0$$

$$x(x-15) = 0$$

$$x = 15$$

26.



$$(x+2)(2x-8) = (x+1)(2x-5)$$

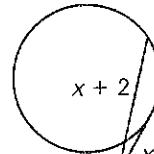
$$2x^2 - 4x - 16 = 2x^2 - 9x - 5$$

$$-4x - 16 = -9x - 5$$

$$5x = 11$$

$$x = 2.2$$

27.



$$x^2 = (x-2)(2x)$$

$$x^2 = 2x^2 - 4x$$

$$0 = x^2 - 4x$$

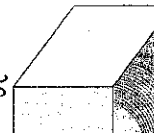
$$0 = x(x-4)$$

$$x = 4$$

28.

Which A large industrial winch is enclosed as shown. There are 15 inches of the cable hanging free off of the winch's spool and the distance from the end of the cable to the spool is 8 inches. What is the diameter of the spool?

$$15^2 = 8(d+15)$$



29.

**Storm Drain** The diagram shows a cross-section of a large storm drain pipe with a small amount of standing water. The distance across the surface of the water is 48 inches and the water is 4.25 inches deep at its deepest point. To the nearest inch, what is the diameter of the storm drain pipe?

$$4.25x = 24.24$$

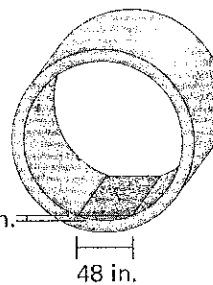
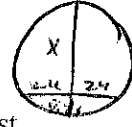
$$x = 135.5$$

$$135.5$$

$$+ 4.25$$

$$139.75$$

$$x = 140 \text{ in}$$



30.

**Basketball** The Xs show the positions of two basketball teammates relative to the circular "key" on a basketball court. The player outside the key passes the ball to the player on the key. To the nearest tenth of a foot, how long is the pass?

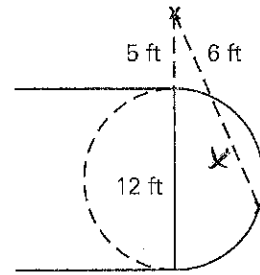
$$5(17) = 6(x+6)$$

$$85 = 6(x+6)$$

$$8.2$$

$$+ 6$$

$$14.2 \text{ ft}$$



$$8.2 = x$$